0060730

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99352

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

September 29, 2003

Melissa Garrard
Fluor Hanford
2430 Stevens Center, Room 169
Richland, WA 99352

RECEIVED
NOV 2 4 2003
EDMC

Reference: Contract 615

Dear Ms. Garrard:

Accompanying this letter are the Data Package(s) for the radiochemical analyses for the following Fluor Sample Delivery Groups:

SDG NUMBER	SAF NUMBER	LOT NUMBER
W04103	F03-012	J3H130234

If you have any questions regarding this data package or require any additional information please contact Bev Giroir at 375-3131.

Receipt of this letter and the packages are acknowledged by:

M Garrard 9/29/03 4:00

Name Date Time

XC: File

SEP 2003
RECEIVED

Analytical Data Package Prepared For

Fluor Hanford Inc.

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99352, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains 21 *Pages*

Report No.: 23695

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04103	F03-012	B17C48	J3H130234-1	FV7LN1AA	9FV7LN10	3226293
		B17C49	J3H130234-2	FV7LV1AA	9FV7LV10	3226293
		B17C50	J3H130234-3	FV7L41AA	9FV7L410	3226293

SEVERN TRENT STL

Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

September 26, 2003

Attention: Steve Trent

SAF Number	:	F03-012
Date SDG Closed	:	August 27, 2003
Number of Samples	:	Three (3)
Sample Type	:	OTHER SOLID
SDG Number	:	W04103
Data Deliverable	:	45 Day / Summary

CASE NARRATIVE

I. Introduction

On August 13, 2003, three water samples were received at STL Richland (STLR) for chemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford (FH) specific IDs:

BHI ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B17C48	FV7NL	OTHER SOLID	8/13/03
B17C49	FV7LV	OTHER SOLID	8/13/03
B17C50	FV7L4	OTHER SOLID	8/13/03

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were: **Chemical Analyses**
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed under SDG W04103 includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Chemical Analyses
Hexavalent Chromium by EPA method 7196A:
The LCS, batch blank, sample and sample duplicate (B17C48), and sample matrix spike/matrix spike duplicate (B17C48), results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

for Beverly I. Giroir
Client Service Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) *u_c - Combined Uncertainty.*	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, *u_c the combined uncertainty.* The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Date: 29-Sep-03

Report No. : 23695

SDG No: W04103

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
3226293	7196_CR6								
B17C48									
	FV7LN1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
B17C48 DUP									
	FV7LN1AE	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	0.0
B17C49									
	FV7LV1AA	HEXCHROME	4.57E-01 +- 0.00E+00		mg/kg	N/A	3.50E-01	3.50E-01	
B17C50									
	FV7L41AA	HEXCHROME	3.93E-01 +- 0.00E+00		mg/kg	N/A	3.50E-01	3.50E-01	

No. of Results: 4

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLRL

Date: 29-Sep-03

Ordered by Method, Batch No, QC Type,.

Report No. : 23695 **SDG No.:** W04103

Batch / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
7196_CR6								
3226293 MATRIX SPIKE								
FV7LN1AD	HEXCHROME	3.33E+01 +- 0.00E+00		mg/kg	N/A	81%	-0.2	3.50E-01
3226293 LCS								
FV9AW1AC	HEXCHROME	3.86E+01 +- 0.00E+00		mg/kg	N/A	97%	0.0	3.50E-01
3226293 BLANK QC								
FV9AW1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A			3.50E-01

No. of Results: 3

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 29-Sep-03

Lab Name: STL Richland | **SDG:** W04103 | **Collection Date:** 8/13/2003 8:30:00 AM

Lot-Sample No.: J3H130234-1 | **Report No. :** 23695 | **Received Date:** 8/13/2003 11:30:00 AM

Client Sample ID: B17C48 | **COC No. :** F03-012-006 | **Matrix:** SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			Work Order:	FV7LN1AA		Report DB ID:	9FV7LN10				
HEXCHROME	3.50E-01	U		0.00E+00	3.50E-01	mg/kg	N/A	*(1.)*	8/14/03		2.5	
							3.50E-01	*N/A*			G	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 29-Sep-03

Lab Name:	STL Richland	**SDG:**	W04103	**Collection Date:**	8/13/2003 9:30:00 AM
Lot-Sample No.:	J3H130234-2	**Report No. :**	23695	**Received Date:**	8/13/2003 11:30:00 AM
Client Sample ID:	B17C49	**COC No. :**	F03-012-006	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			**Work Order:** FV7LV1AA			**Report DB ID:** 9FV7LV10					
HEXCHROME	4.57E-01			0.00E+00	3.50E-01	mg/kg	N/A	*(1.3)*	8/14/03		2.5	
							3.50E-01	*N/A*			G	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 29-Sep-03

Lab Name:	STL Richland	**SDG:**	W04103	**Collection Date:**	8/13/2003 10:10:00 AM
Lot-Sample No.:	J3H130234-3	**Report No. :**	23695	**Received Date:**	8/13/2003 11:30:00 AM
Client Sample ID:	B17C50	**COC No. :**	F03-012-006	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			Work Order: FV7L41AA			Report DB ID: 9FV7L410					
HEXCHROME	3.93E-01			0.00E+00	3.50E-01	mg/kg	N/A	*(1.1)*	8/14/03		2.5	
							3.50E-01	*N/A*			G	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 29-Sep-03

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W04103	**Collection Date:**	8/13/2003 8:30:00 AM
Lot-Sample No.:	J3H130234-1	**Report No. :**	23695	**Received Date:**	8/13/2003 11:30:00 AM
Client Sample ID:	B17C48 DUP	**COC No. :**	F03-012-006	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3226293 7196 CR6				**Work Order:** FV7LN1AE			**Report DB ID:** FV7LN1ER		**Orig Sa DB ID:** 9FV7LN10			
HEXCHROME	3.50E-01	U		0.00E+00	3.50E-01	mg/kg	N/A	(1.)	8/14/03		2.5	
	3.50E-01	U	**RPD** 0.0			3.50E-01		N/A			G	

No. of Results: 1 **Comments:**

RPD - Relative Percent Difference.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

BLANK RESULTS

Date: 29-Sep-03

Lab Name: STL Richland **SDG:** W04103

Matrix: SOIL **Report No. :** 23695

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			Work Order:	FV9AW1AA	Report DB ID:		FV9AW1AB				
HEXCHROME	3.50E-01	U		0.00E+00	3.50E-01	mg/kg	N/A	(1.)	8/14/03		2.5	
						3.50E-01		N/A			G	

No. of Results: 1 **Comments:**

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

LCS RESULTS

Date: 29-Sep-03

Lab Name: STL Richland **SDG:** W04103

Matrix: SOIL **Report No. :** 23695

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			Work Order:	FV9AW1AC		Report DB ID:	FV9AW1AS					
HEXCHROME	3.86E+01			0.00E+00	3.50E-01	mg/kg	N/A	4.00E+01		97%	8/14/03	2.5	
							Rec Limits:	80	120	0.0		G	

No. of Results: 1 **Comments:**

FORM II

Date: 29-Sep-03

MATRIX SPIKE RESULTS

Lab Name: STL Richland **SDG:** W04103

Lot-Sample No.: J3H130234-1 **Report No. :** 23695 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3226293	7196_CR6			Work Order: FV7LN1AD		Report DB ID: FV7LN1DW			Orig Sa DB ID: 9FV7LN10				
HEXCHROME	3.33E+01			0.00E+00	3.50E-01	mg/kg	N/A	80.83%	4.12E+01		8/14/03	2.5	
	3.50E-01	RPD	195.8									G	

No. of Results: 1 **Comments:**

STL Richland RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.

V4.04 A97

SEVERN TRENT STL

Richland Laboratory
Data Review Check List
METALS

Work Order Number(s): FV7LN, FV7LV, FV7L4 BATCH # 3226293
Lab Sample Numbers or SDG: WO 4103 LOT # J3H130234
Method/Test/Parameter:

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
A. Initial Calibration				
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			✓
B. Continuing Calibration				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
C. Sample Analysis				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			✓
2. Were all sample holding times met?	✓			✓
D. QC Samples				
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2nd Level Review (✓)
E. Other				
1. Are all nonconformances included and noted?			✓	✓
2. Is the correct date and time of analysis shown?	✓			✓
3. Did the analyst sign and date the front page of the analytical run?	✓			✓
4. Correct methodology used?	✓			✓
5. Transcriptions checked?	✓			✓
6. Calculations checked at minimum frequency?	✓			✓
7. Units checked?	✓			✓

Comments on any "No" response:

C1) PbCrO4 SPIKE OF FV7LN1AA REQUIRED X 20 DILUTION.

Analyst: M - Fab. Date: 9-12-03

Second-Level Review: [signature] Date: 9-17-03

Form No. CG-191, Rev. 3, 12/01

CHAIN OF CUSTODY

Q-50634 FLH

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-012-006	Page 1 of 2
Collector Johansen/Pope/Pfister	Company Contact Steve Trent	Telephone No. 373-5869	Project Coordinator TRENT, SJ	Price Code 9N Air Quality ☐
Project Designation 200-PW-2/200-PW-4 OU - Other Solid	Sampling Location 200-PW-2/200-PW-4 Retention Basin		SAF No. F03-012	Data Turnaround 45 Days
Ice Chest No. SMC-600	Field Logbook No. HNF-336-1	COA 117504ES10	Method of Shipment Government Vehicle	
Shipped To Severn Trent Incorporated, Richland	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS
N/A

Special Handling and/or Storage
N/A

Preservation	Cool 4C										
Type of Container	aG										
No. of Container(s)	1										
Volume	60mL										
	Chromium Hex - 7196										

SDG
W04103

SAMPLE ANALYSIS
J3H1302234

Sample No.	Matrix *	Sample Date	Sample Time								
B17C48 FV7LN	OTHER SOLID	8-13-03	0830	X							
B17C49 FV7LV	OTHER SOLID	8-13-03	0930	X							
B17C50 FV7L4	OTHER SOLID	8-13-03	1010	X							
~~B17C51 FV7L8-13-03~~	~~OTHER SOLID~~										
~~B17C52 FV7L8-13-03~~	~~OTHER SOLID~~										

CHAIN OF POSSESSION	Sign/Print Names			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	
Johansen/Pope/Pfister	8-13-03 1130	A. Rhinehart	8-13-03 1130	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	

SPECIAL INSTRUCTIONS
N/A

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 8/13/03@11:30 AM

Client: FHI SDG #: W04103 NA [ ] SAF #: F03-012 NA [ ]

Work Order Number: J3H130234 Chain of Custody # F03-92-0010

Shipping Container ID: SML-600 Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: 4° NA [X] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
   JH 8-13-03
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   ____ tape
   [X] custody seals
   [X] hazard labels
   [X] appropriate samples labels
9. Samples are:
   [X] in good condition
   ____ broken
   ____ leaking
   ____ have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: Quail Rhodes M / Richard Date: 8/13/03

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/01, Rev. 4

8/14/2003 9:10:18 AM

Sample Preparation/Analysis

Balance Id:

108302, FLUOR HANFORD IC , Flour
Hanford Inc

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)

Pipet #: _____

Report Due: 09/27/2003 W04103

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 3226293 OTHER SOLID mg/kg

PM, Quote: BG2, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FV7LN-1-AA J3H130234-1-SAMP										
08/13/2003 08:30		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
2 FV7LN-1-AD-S J3H130234-1-MS										
08/13/2003 08:30		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
3 FV7LN-1-AE-X J3H130234-1-DUP										
08/13/2003 08:30		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
4 FV7LN-1-AF-S J3H130234-1-MS										
08/13/2003 08:30		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
5 FV7LV-1-AA J3H130234-2-SAMP										
08/13/2003 09:30		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
6 FV7L4-1-AA J3H130234-3-SAMP										
08/13/2003 10:10		AmtRec: 60G	#Containers: 1					Scr Rst:	Alpha:	Beta:
7 FV9AW-1-AA-B J3H140000-293-BLK										
08/13/2003 08:30		AmtRec:	#Containers: 1					Scr Rst:	Alpha:	Beta:

Sample Preparation/Analysis

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Report Due: 09/27/2003

Batch: 3226293 mg/kg

SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
8 FV9AW-1-AC-C J3H140000-293-LCS										
08/13/2003 08:30	AmtRec:	#Containers: 1							Scr Rst:	Alpha: Beta:

Comments:

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG2, 50639

FV7LN1AA-SAMP Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20
FV7LN1AD-MS Constituent List:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
FV7LN1AF-MS:
HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RPD:20
FV9AW1AA-BLK:
HEXCHROME RDL:0.35 mg/kg LCL: UCL: RPD:
FV9AW1AC-LCS:
HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RPD:20

FV7LN1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FV7LN1AD-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FV7LN1AF-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FV9AW1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FV9AW1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B